7 ACTIONS ASSOCIATED WITH DREDGING AND DISPOSAL [ESA SECTION 7(A)(2)]

7.1 Introduction

Substantial effort by personnel from the Corps, the Services, and independent scientists has been directed at identifying the interrelationship among pertinent physical factors, habitat, and salmonids in the Columbia River and estuary. Knowledge of these specific interrelationships is integral to the determination of project-related effects on listed salmonids and other resources. To ensure that the best available science was used to document listed salmonid resources and potential project-related impacts, SEI convened a panel of independent scientists knowledgeable of the resources issues. The SEI panel participated in a series of meetings facilitated by SEI to discuss and evaluate scientific and technical issues related to the project. Curricula vitae for the panel members are included in Appendix A.

A Biological Review Team (BRT) made up of federal agency representatives was formed for the informal consultation. The BRT met at least weekly for approximately 8 months to address biological concerns associated with the BA process. The BRT served as a catalyst for identification of ecosystem restoration measures and research actions to further resource recovery and baseline information on ESA salmonids and their habitat.

Previous sections in this BA have dealt with identification of resources, the relationship between these resources and physical parameters, and ESA salmonid habitat, including critical habitat. Discussions have also dealt with project-related effects, either directly on listed ESUs or indirectly on their habitat, prey resources, or physical parameters that influence their use of the estuary and river.

This section establishes a monitoring plan to validate the nature and extent of expected effects. The information obtained through the monitoring plan described in this section will be used as input to the adaptive management framework described in Section 9. Additionally, there is a lower river/estuary restoration and monitoring program designed to restore habitat function as well as inform about certain restoration techniques (see Section 8, Table 8-1).

An Adaptive Management Team (AMT), made up of federal agency representatives, has been established to hear research and monitoring results and then render management decisions on adapting project implementation actions to counter or negate adverse effects. The AMT and proposed monitoring actions are intended to validate the conclusions of the BA, help minimize take of listed species, and ensure that proposed activities will not jeopardize listed species or adversely modify designated critical habitat [ESA Section 7(a)(2)]. The proposed monitoring plan, on which the AMT will rely for appropriate data, will monitor to address uncertainty and risk related to potential project effects over the long term and to validate assumptions used in analyzing project effects (see Table 7-1).

The Corps has identified two types of actions to address the conservation needs for the Project associated with effects of dredging and disposal: monitoring actions and compliance actions. These actions are described in the following sections.

7.2 Risk and Uncertainty

The SEI scientific panel identified risk and uncertainty as necessary components of scientific and management decisions. Risk and uncertainty were discussed as part of the BRT meetings. From these discussions, areas of risk and uncertainty associated with the indicators in the conceptual model were identified. These are presented in a conceptual framework outlined in Table 7-1. In addition, the BRT developed the following definitions of risk and uncertainty.

Uncertainty is an inverse indicator of confidence in one's ability to predict a change in a physical or biological parameter. Uncertainty is related to general and/or site-specific knowledge about a parameter and the methods available to predict change. Uncertainty would be higher for parameters for which little or no data are available than it would be for parameters with abundant available data. Uncertainty would also be higher for parameters for which there are no established methods for predicting change than for parameters that have empirical relationships or models to predict change. The highest degree of uncertainty would be for parameters with no available data and only judgment as a means to predict changes. The lowest uncertainty would be for parameters with abundant data and established numerical models to predict change.

Risk represents the potential threat to the health or survival of salmonids caused by changes in physical or biological parameters. Risk is a function of the sensitivity of salmonids, or their habitat, to a change in a parameter. The more sensitive salmonids are to a parameter and the larger the potential change, the greater the risk to salmonids. The greatest risk to salmonids would come from large changes to highly sensitive parameters, while small changes to low sensitivity parameters would produce the lowest risk.

Note that the concept of uncertainty and risk here is different from the concept of effects. There can be high uncertainty without concluding that an adverse effect is likely. A discussion of the monitoring scenarios shown in Figure 7-1 follows:

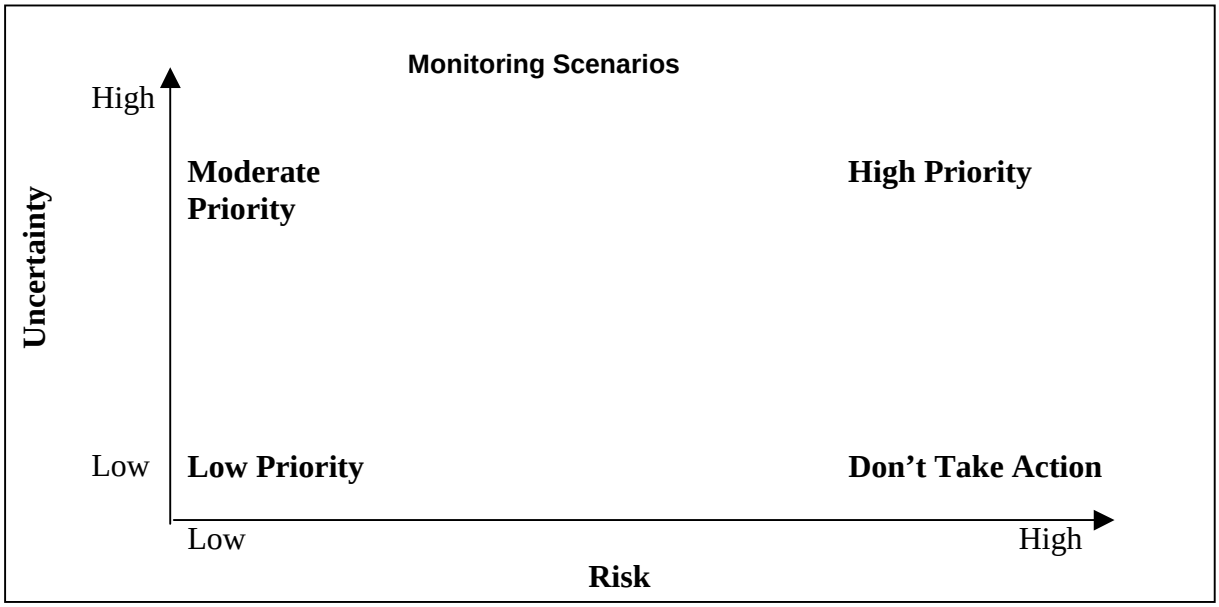

Figure 7-1: Risk Monitoring Scenarios

The purpose of assigning relative risk and uncertainty to each indicator was to evaluate whether any indicator had a high risk coupled with a low uncertainty. In other words, if the analysis showed a high risk with much known (certainty) to a given indicator, this combination would warrant no action being taken. The next combination of risk and uncertainty that would have a high priority for monitoring would be where the analysis found a medium to high risk and medium to high uncertainty. No indicators fit either of these two categories. Low priority monitoring actions are those that have low to medium risk and low to medium uncertainty. Suspended sediments, salinity, velocity, feeding habitat opportunity, refugia, and suspended solids fit this category. Although these had a low priority for monitoring, Monitoring Action 1 and Monitoring Action 4 will provide information about these indicators and will be included.

The last category for monitoring has a moderate priority and would have a combined low to medium risk and medium to high uncertainty because not much data are available, or there are no established methods for predicting change. Many of the indicators fell into this category. The monitoring actions were then developed to assess the indicators that the BRT thought were most important to the listed stocks, centered around a habitat and ecosystem approach that assesses type, function, and value to the listed stocks.

Table 7-1 presents a summary of the risks and uncertainties associated with the assessment of effects for the Project identified by the SEI Panel and the BRT. The table summarizes for each indicator the level of uncertainty and risk associated with the analysis.

For example, the table notes that the level of uncertainty for suspended sediment is low because there are ample data and the analysis was performed using an empirical method. The risk associated with this parameter is low because salmonids are not sensitive to changes in suspended sediments and the model predicted no, or a very small, change.

Table 7-1: Risk and Uncertainty Conceptual Framework

Pathway	Indicator	Uncertainty	Risk
Habitat-Forming Processes	Suspended sediment	**L** Lots of available data Empirical method	**L** Sensitivity very low No to small change
	Bedload (Main Channel)	**M** Limited data Empirical equation	**L** Sensitivity low Change none
	Woody debris	**H** No data Professional judgment	**L+** Sensitivity low to medium No change
	Turbidity	**M+** Limited data Judgment, conceptual model	**L** Sensitivity low Small change
	Salinity	**L** Limited to abundant data Strong scientific methods	**L+** Sensitivity moderate Small change
	Accretion/Erosion (Shallows)	**M** Limited data Empirical	**L** Sensitivity low No to small change
	Bathymetry (Channel)	**L** Abundant data Models strong scientific method	**M-** Sensitivity low Measurable change
Habitat Type	Tidal Marsh and Swamp Habitat	**M** Limited data Conceptual model	**L+** Sensitivity moderate No to small change

Pathway	Indicator	Uncertainty	Risk
	Shallow Water and Flats Habitat	**M** Limited data Empirical	**M-L+** Sensitivity moderate to high Small change
	Water Column Habitat	**M** Limited data Judgment and empirical	**L** Sensitivity low None to small change
Habitat Primary Productivity	Light	**M** Limited data Conceptual model	**L** Sensitivity low No change
	Nutrients	**M+** Limited data Professional judgment	**L** Sensitivity low No to small change
	Imported Phytoplankton Production	**M** Limited data Professional judgment	**L** Sensitivity low Small change
	Resident Phytoplankton Production	**M** Limited data Professional judgment	**L** Sensitivity low Small change
	Benthic Algae Production	**H** Limited data Professional judgment	**L+** Sensitivity low No to small change
	Tidal Marsh and Swamp Production	**M** Limited data Conceptual model	**L+** Medium sensitivity No to small change
Food Web	Deposit Feeders (Channel Bottom)	**M** Limited data Conceptual model	**L** Sensitivity low Small change
	Deposit Feeders (Side Channels)	**M** Limited information Judgment-empirical Conceptual model	**M** Sensitivity medium No to measurable change
	Mobile Macro-invertebrates	**M** Limited data Judgment-empirical	**L** Sensitivity low No change
	Insects (Side Channel, Tidal Marsh)	**H** None to limited data Judgment	**M** Sensitivity medium Small change
	Suspension/Deposit Feeders	**M** Limited information Judgment - empirical Conceptual Model	**M** Sensitivity medium Measurable change

Pathway	Indicator	Uncertainty	Risk
	Suspension Feeders (Side Channel)	**M** Limited information Judgement - empirical Conceptual Model	**M** Sensitivity medium No to measurable change
	Tidal Marsh Macrodetritus	**H** No available data Professional judgment	**L+** Sensitivity medium Small change
	Resident Microdetritus	**H** No available data Professional judgment	**L+** Sensitivity low Small change
	Imported Microdetritus	**M** Limited data Empirical	**L+** Sensitivity medium No change
Growth	Habitat Complexity, Connectivity, Conveyance	**L+** Limited data Strong scientific methods	**M** Sensitivity high No to small change
	Velocity Field	**L** Limited data Modeled data 2x	**L** Sensitivity low No to measurable change
	Bathymetry and Turbidity	**H** Limited data to no data Professional judgment	**M** Sensitivity medium to high No to little change
	Feeding Habitat Opportunity	**L** Limited data Some modeling	**L+** Sensitivity medium to high No to little change
	Refugia	**L** Limited data Conceptual model	**L+** Sensitivity High No change
	Habitat-Specific Food Availability	**M** No to little data Conceptual model	**M** Sensitivity high Small change
Survival	Contaminants	**M** Lots of data/limited Empirical methods/ professional judgment	**M** Medium sensitivity Change measurable
	Disease	**L** Much data Some empirical	**M-** Sensitivity high No change
	Suspended Solids	**L** Lots of data Empirical method	**L** Sensitivity very low No to small change

Pathway	Indicator	Uncertainty	Risk
	Stranding	**L**	**M**
		Much data	Sensitivity high
		Empirical method	Small change
	Temperature and Salinity Extremes	**L+**	**M**
		Some data	Sensitivity high
		Modeling temp. data literature	No to small change
	Turbidity	**M+**	**L**
		Limited data	Sensitivity low
		Judgment Conceptual Model	Small change
	Predation	**M**	**M**
		Limited data	Sensitivity high
		Some studies	No to low change
	Entrainment	**L**	**M**
		Abundant data	Sensitivity high
		Empirical method	No change

7.3 Monitoring Actions

The proposed monitoring actions will help to ensure that the conclusions of the Project analysis regarding minor effects on habitat and individuals in Section 6 are correct. The monitoring actions proposed are for indicators where the levels of uncertainty and risk from project effects warrant gathering additional information. It should be noted that these levels of risk were not high enough to alter the conclusions in Section 6 concerning the effects on the listed and candidate salmonid species, but still of a level to warrant verification through monitoring. This includes potential effects on indicators related to potential for take of individuals of the listed and candidate salmonid species, as well as their habitat.

Monitoring actions proposed for the Project are summarized in Table 7-1. The contents of the summary table include:

- Conceptual model indicator(s) addressed by each monitoring action
- Description of the monitoring task to be implemented
- Technical justification for each of the monitoring tasks
- Relative uncertainty and risk from project effects identified by the Corps, NMFS, and USFWS and the analysis for each of the indicator(s)
- Duration of the monitoring proposed for each task
- Analysis of monitoring data for each monitoring task

The pathways and indicators shown Table 7-2 apply to the monitoring actions listed in Table 7-3.

Table 7-2: Pathways and Indicators Addressed by Project Monitoring Actions

Pathways	Indicators	Monitoring Actions
Habitat-forming processes	Bedload *(see Section 6.1.2.3)*	Monitoring Action 1
	Salinity *(see Section 6.1.5.3)*	Monitoring Action 1
	Accretion/Erosion (*see Section 6.1.6.1)*	Monitoring Action 3
	Bathymetry *(see Section 6.1.7.4)*	Monitoring Action 3
Habitat type	Tidal marsh and swamp habitat *(see Sections 6.1.8.2 and 6.1.16.2)*	Monitoring Action 4
	Shallow water and flats habitat *(see Section 6.1.9.3)*	Monitoring Action 3
Food Web	Insects *(see Section 6.1.19.2)*	Monitoring Action 4
	Suspension/deposit feeders *(see Sections 6.1.17, 6.1.20, and 6.1.21)*	Monitoring Action 4
	Tidal marsh macrodetritus *(see Section 6.1.22.2)*	Monitoring Action 4
Growth	Habitat complexity, connectivity, and conveyance *(see Section 6.1.25.1)*	Monitoring Action 1
	Velocity field *(see Section 6.1.26.2)*	Monitoring Action 1
	Feeding habitat opportunity (*see Section 6.1.28.3)*	Monitoring Action 1
	Refugia *(see Section 6.1.29.3)*	Monitoring Action 4
	Habitat-specific food availability (*see Section 6.1.30.2)*	Monitoring Action 4
Survival	Contaminants *(see Section 6.1.31.2)*	Monitoring Action 5
	Stranding *(see Section 6.1.34.2)*	Monitoring Action 6

In addition to the indicators listed in Table 7-2, monitoring actions will obtain information on water surface elevations in the estuary and dredging volumes.

Data obtained from the monitoring provide ongoing evaluation and verification of conclusions summarized in Section 6. The data will also provide information about salmonid use of and interactions within the lower Columbia River ecosystem.

Table 7-3 identifies the indicators, tasks, justification, uncertainty, duration, and data analysis for each monitoring action. Monitoring Action 1 will rely on research scientists to identify baseline conditions and then determine if there are significant changes arising from project implementation. Monitoring Actions 2, 3, 4, 5, and 6 will rely on personnel from the Corps, NMFS, or their contractors to compile the necessary information and conduct the appropriate analyses. Each entity responsible for a specific monitoring action is tasked to provide annual reports and participate in the annual AMT meetings.

These monitoring actions will be coordinated with other compliance, restoration, and research actions to be undertaken for the lower Columbia River. Section 9 describes the adaptive management approach that will be implemented by the Corps.

7.4 Compliance Actions

Compliance actions are those actions that will be taken during the implementation of project actions to avoid or minimize potential effects on listed and candidate salmonid species. These compliance measures prescribe safeguards, techniques, and guidelines that will be followed to avoid or minimize take. Table 7-4 addresses BMPs for project disposal and dredging actions, as well as timing restrictions associated with these actions. Further, the Corps proposes to use compliance actions identified in Tables 7-5 and 7-6, to ensure that the proposed Project minimizes or avoids take of individual listed or candidate salmonid species or their habitat. These compliance actions have been developed over time through the Corps' dredging program; they are considered to represent the best management practices for dredging and disposal to minimize any adverse effect to listed species or their habitat. These actions will be monitored by onsite inspection under established quality assurance processes. If the inspection identifies new information that potentially warrants a change, that information will be reported to the adaptive management team (see Section 9) for consideration of changes to the compliance measures.

Table 7-3: ESA Sec. 7(a)(2) Monitoring Actions Associated with Dredging and Disposal

Monitoring Action Number	Indicator	Monitoring Task	Justification	Uncertainty And Risk[1]	Duration	Data Analysis	Trigger For Management Changes
MA-1	Salinity, velocity, water surface, habitat complexity, connectivity, and conveyance, and habitat opportunity.	The Corps will maintain three hydraulic monitoring stations, one downstream of Astoria, one in Grays Bay, and one in Cathlamet Bay. Parameters measured would include salinity, water surface, and water temperature.	Physical changes related to channel deepening are expected to be small and concentrated near the navigation channel.	Salinity L,L+; velocity L,L; bathymetry L,M-; habitat complexity, connectivity, and conveyance L+, M;	7 years: 2 years before, 2 years during, and 3 years after construction	An analysis would be conducted to determine pre- and post-project relationships among flow, tide, salinity, water surface, and temperature.	Post-project data exceeds defined threshold values. Determine if task should continue and what funding source is appropriate.
MA-2	Dredging volume, bedload.	Annual dredging volumes, construction and O&M.	To ensure scale of the project does not change.	Bedload M, L	Life of the project.	Actual volumes will be compared to predicted.	Dredging volumes exceed capacity of the disposal plan.
MA-3	Accretion/erosion, bathymetry (main channel).	Main channel bathymetric surveys throughout project area.	Side-slope adjustments are expected to occur intermittently adjacent to the navigation channel.	Accretion/erosion M, L; bathymetry L, M-	7 years: 2 years before, 2 years during, and 3 years after construction	Bathymetric changes will be tracked to determine if habitat is altered.	Habitat alteration in main channel due to side-slope adjustment.
MA-4	Tidal marsh, swamp, flats, refugia, habitat complexity, connectivity and conveyance, suspension and deposit feeders, insects, macrodetritus and habitat specific food availability, juvenile salmonids in peripheral habitats and habitat opportunity.	Repeat estuary habitat surveys being conducted by NMFS (Bottom and Gore, 2001 proposal).	Identify if there is a change to habitat due to deepening.	Tidal marsh and swamp habitat M, L+; flats habitat M, M-L+; suspension/deposit feeders M, M; deposit feeders M, M; suspension feeders M, M; insects H, M: macrodetritus H, L+; habitat-specific food availability M, M; feeding habitat opportunity L, L+	One time survey conducted 3 years after completion of the deepening.	Habitat mapping from aerial photos and ground surveys.	Changes to individual habitat types that are based on defined threshold values. Determine need for other surveys.
MA-5	Contaminants	NMFS will review the SEDQUAL database to determine if there are areas that would require additional sampling. Review existing contaminants database using	Ensure that channel construction does not disturb undetected deposits of fine-grained material, potentially causing redistribution of	Contaminants M, M.	NMFS will review SEDQUAL data prior to construction; if additional samples are required they	Existing sediment data will be reviewed for the amount of fine-grained material. Chemical results will be compared to the	Detection of chemicals at concentrations that pose a risk to the health and/or survival of salmonids or trout.

Monitoring Action Number	Indicator	Monitoring Task	Justification	Uncertainty And Risk[1]	Duration	Data Analysis	Trigger For Management Changes
		NMFS guidelines or trigger values that are more protective of salmonids and trout. Provide notification during construction dredging to monitor for presence of fine-grained material – i..e., oily sheens. If found, dredging will cease in that location and additional testing will be conducted.	contaminants that could pose a risk to salmonids and trout.		would be obtained prior to construction. On-board observations would be conducted.	NMFS guideline for the protection of salmon.	
MA-6	Stranding	Field surveys will be made monthly at selected beaches (upper, mid, and lower river) during the April-August out-migration to measure the number of fish being stranded along beaches.	Identify if there is a change in stranding due to deepening.	Stranding L, M.	One year before deepening and 1 year after deepening.	Compare pre- and post-project stranding counts.	If there is an increase in the number of fish stranded, proposals would be developed and presented to decision makers.

[1]In this column "L"=low, "M"=medium, and "H"=high. A "+" sign means that the L, M, or H is of higher concern; a "-" means that the L, M, or H is of lower concern. The first L, M, or H after the indicator is the factor identified for uncertainty; the second L, M, or H after each indicator is the factor identified for risk. These factors were identified by the Corps, Sponsor Ports, NMFS, and USFWS (see Table 7-2).

Table 7-4: BMPs for Project Disposal and Dredging Actions

Construction Features	Type of Dredging	Timing
Navigation channel, including overdepth and overwidth dredging at depths greater than 20 feet	Hopper Pipeline Mechanical excavation	No timing windows No timing windows No timing windows
Turning basins at depths greater than 20 feet	Hopper Pipeline	No timing windows No timing windows
Rock removal with blasting	Mechanical excavation	November 1 to February 28
Rock removal at depths greater than 20 feet	Mechanical excavation	No timing windows
Berths	Mechanical excavation	November 1 to February 28
Ecosystem restoration features dredging at depths greater than 20 feet	Mechanical excavation Pipeline Hopper	No timing windows
Ecosystem restoration features dredging at depths less than 20 feet	Mechanical excavation Pipeline Hopper	November 1 to February 28

Table 7-5: Minimization Practices and Best Management Practices for Dredging

Monitoring Action Number	Indicator	Measure	Justification	Duration	Management Decision
Hopper Dredging					
CA-1	Entrainment (Survival) Benthic Invertebrates Deposit Feeders	Maintain dragheads in the substrate or no more than 3 feet off of the bottom with the dredge pumps running.	This restriction minimizes or eliminates entrainment of juvenile salmonids during normal dredging operations.	Continuous during dredging operations.	Maintain until new information becomes available that would warrant change.
CA-2	Habitat Complexity Bathymetry & Turbidity Feeding Habitat Opportunity Suspension-Deposit Feeders Deposit Feeders Mobile Macroinvertabrates	Dredge in shallow water areas (less than 20 feet) only during the recommended ESA in-water work period for the Columbia River of November 1 until February 28.	Areas less than 20 feet deep are considered salmonid migratory habitat. Dredging or disposal in these areas could delay migration or reduce or eliminate food sources.	Continuous during dredging operations.	Maintain until new information becomes available that would warrant change.
Pipeline Dredging					
CA-3	Entrainment (Survival) Benthic Invertebrates Deposit Feeders	Maintain cutterheads in the substrate or no more than 3 feet off of the bottom with the dredge pumps running.	This restriction minimizes or eliminates entrainment of juvenile salmonids during normal dredging operations.	Continuous during dredging operations.	Maintain until new information becomes available that would warrant change.
CA-4	Habitat Complexity Bathymetry & Turbidity Feeding Habitat Opportunity Suspension-Deposit Feeders Deposit Feeders Mobile Macroinvertabrates	Dredge in shallow water areas (less than 20 feet) only during the recommended ESA in-water work period for the Columbia River of November 1 until February 28.	Areas less than 20 feet deep are considered salmonid migratory habitat. Dredging or disposal in these areas could delay migration or reduce or eliminate food sources.	Continuous during dredging operations.	Maintain until new information becomes available that would warrant change.
General Provisions For All Dredging					
CA-5	Contaminants Water Column Habitat	The contractor will not release any trash, garbage, oil, grease, chemicals, or other contaminants into the waterway.	Protect water resources.	Life of contract or action.	If material is released, it will immediately be removed and the area restored to a condition approximating the adjacent undisturbed area. Contaminated ground will be excavated and removed, and the area restored as directed. Any in-water release will be immediately reported to the nearest U.S. Coast Guard Unit for appropriate response.
CA-6	NA	The contractor, where possible, will use or propose for use materials that may be considered environmentally friendly in that waste from such materials is not regulated as a hazardous waste or is not considered harmful to the environment. If hazardous wastes are generated, disposal of this material will be done in accordance with 40 CFR parts 260-272 and 49 CFR parts 100-177.	Dispose of hazardous waste.	Life of contract or action.	If material is released, it will immediately be removed and the area restored to a condition approximating the adjacent undisturbed area. Contaminated ground will be excavated and removed, and the area restored as directed. Any in-water release will be immediately reported to the nearest U.S. Coast Guard Unit for appropriate response.

Table 7-6: Best Management Practices for Disposal

Monitoring Action Number	Indicator	Measure	Justification	Duration	Management Decision
Flow Lane Disposal					
CA-7	Accretion/Erosion	Dispose of material in a manner that prevents mounding of the disposal material.	Spreading the material out will reduce the depth of the material on the bottom, which will reduce the impacts to fish and invertebrate populations.	Life of contract or action.	Maintain until new information becomes available that would warrant change.
CA-8	Bathymetry & Turbidity (Survival) Suspended Solids	Maintain discharge pipe of pipeline dredge at or below 20 feet of water depth during disposal.	This measure reduces the impact of disposal and increased suspended sediment and turbidity to migration juvenile salmonids, as they are believed to migrate principally in the upper 20 feet of the water column.	Continuous during disposal operations.	Maintain until new information becomes available that would warrant change.
Upland Disposal					
CA-9	Suspended Solids Turbidity (Survival) Bathymetry & Turbidity	Berm upland disposal sites to maximize the settling of fines in the runoff water.	This action reduces the potential for increasing suspended sediments and turbidity in the runoff water	Continuous during disposal operations.	Maintain until new information becomes available that would warrant change.
CA-10	Habitat Complexity, Connectivity Conveyance Insects Resident Macrodetritus, Microdetritus Large Woody Debris	Maintain 300-foot habitat buffer.	Maintains important habitat functions.	Life of contract or action.	Maintain until new information becomes available that would warrant a change.
Shoreline Disposal					
CA-11	Habitat Complexity Bathymetry & Turbidity Feeding Habitat Opportunity Suspension-Deposit Feeders Deposit Feeders Mobile Macroinvertabrates	Dispose of in shallow water areas (less than 20 feet) only during the recommended ESA inwater work period for the Columbia River of November 1 until February 28.	Areas less than 20 feet deep are considered salmonid migratory habitat, Dredging or disposal in these areas could delay migration or reduce or eliminate food sources.	Continuous during disposal operations.	Maintain until new information becomes available that would warrant change.
CA-12	Stranding	Grade disposal site to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids.	Ungraded slopes can provide conditions on the beach that will create small pools or flat slopes that strand juvenile salmonids when washed up by wave action.	Continuous during disposal operations.	Maintain until new information becomes available that would warrant change.
Ocean Disposal					
CA-13	N A	Dispose of in accordance with the site management and monitoring plan, which calls for a point dump placement of any material from the project during construction. The plan is to place any construction material in the southwest corner of the deep water site.	This action minimizes conflicts with users and impacts to ocean resources.	Continuous during dredging operations.	Maintain until new information becomes available that would warrant change.

Monitoring Action Number	Indicator	Measure	Justification	Duration	Management Decision
General Provisions For All Disposal					
CA-14	N A	Dispose of hazardous waste.	The contractor, where possible, will use or propose for use materials that may be considered environmentally friendly in that waste from such materials is not regulated as a hazardous waste or is not considered harmful to the environment. If hazardous wastes are generated, disposal of this material will be done in accordance with 40 CFR parts 260-272 and 49 CFR parts 100-177.	Life of contract or action.	If material is released, it will immediately be removed and the area restored to a condition approximating the adjacent undisturbed area. Contaminated ground will be excavated and removed, and the area restored as directed. Any in-water discharge will be immediately reported the nearest U.S. Coast Guard Unit for appropriate response.